

**System and Method for Dynamically Partitioning
Processing Across Plurality of Heterogeneous Processors**

ABSTRACT

A program is into at least two object files: one
5 object file for each of the supported processor
environments. During compilation, code characteristics,
such as data locality, computational intensity, and data
parallelism, are analyzed and recorded in the object file.
During run time, the code characteristics are combined with
10 runtime considerations, such as the current load on the
processors and the size of the data being processed, to
arrive at an overall value. The overall value is then used
to determine which of the processors will be assigned the
task. The values are assigned based on the characteristics
15 of the various processors. For example, if one processor
is better at handling intensive computations against large
streams of data, programs that are highly computationally
intensive and process large quantities of data are weighted
in favor of that processor. The corresponding object is
20 then loaded and executed on the assigned processor.